^{171}Yb(^{3}He,$\alpha\gamma$) 1989Ze01,1990Tv01

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	C. M. Baglin[1], E. A. Mccutchan[2], S. Basunia[1]	NDS 153, 1 (2018)	1-Oct-2018

Target $J^{\pi}=1/2^{-}$.

Others: 1990Gu14, 1984Re04, 1983He19.

1990Tv01: E=45 MeV; measured σ(Eα,Eγ,θ), Eγ, Iγ, $\alpha\gamma$ coin, Iγ(J→J-2)/Iγ(4+→2^{+}) at θ(lab)=40°, 53°, 66°, 79°; deduced yrast spin distributions. See also 1990Gu14.

1989Ze01: E=45 MeV; measured σ(Eα,Eγ), $\alpha\gamma(\theta)$, Eγ, Iγ, $\alpha\gamma$ coin; deduced first generation γ rays, branching ratios.

1984Re04: E=26 MeV; θ(lab)=20°, 30°, 45°, 60°, 70°; FWHM=100-300 keV; measured σ(Eα,θ) and $\alpha\gamma$-coin. DWBA calculation, comparison to particle-plus-rotor model.

1983He19: (^{3}He,$\alpha\gamma$); E=26 MeV; measured Eγ, Iγ, and $\alpha\gamma$-coin, $\alpha\gamma(\theta)$. Two-quasiparticle scheme.

γ ray spectra show discrete γ rays deexciting the lower members of the yrast band (J≤10 in 1990Tv01); these are accompanied by a gross structure centered at 1.2 MeV (Γ=0.3 MeV, 1983He19) whose energy and Γ are independent of α-ejectile energy, and for which $\gamma(\theta)$ suggests dipole radiation. An additional structure (Eγ=400 *+50−100*, Γ=350 *+100−50* keV), for which $\alpha\gamma(\theta)$ indicates dipole or unstretched Q character, is reported in 1989Ze01.

$\sigma(\theta)$ for prominent structure at E≈2 MeV indicates high L transfer (L=4 or 5) (1984Re04).